U BIOMEDICAL ENGINEERING PROFESSOR, JOHN A. WHITE, PH.D., NAMED EXECUTIVE DIRECTOR OF UNIVERSITY'S BRAIN INSTITUTE

By Phil Sahm, University of Utah, Health Sciences Public Affairs, with contributions by USTAR

John A. White, Ph.D., a University of Utah biomedical engineering professor who studies how the human brain processes information, has been selected as the new executive director of the U of U Brain Institute.

White joined the University in 2007 as part of the Utah Science, Technology and Research (USTAR) technology-based economic development initiative and is a Brain Institute investigator. He succeeds Thomas N. Parks, Ph.D., professor of neurobiology and anatomy, who last year was appointed University vice president for research. White's broad background and research in the neurosciences, administrative experience, strong connections with neuroscientists across campus, and his vision and ideas for building the University's neurosciences research program made him the top candidate for the job, according to Parks.

"Dr. White brings to the job an active research scientist's perspective, new ideas on how the Brain Institute can serve its members, and strong leadership," said Parks, who served on the selection committee. "He will be an effective leader."

White uses an engineering approach with an array of methods to research how the brain processes information, including computational modeling of the neuronal networks that send and receive electrochemical signals in the brain, designing and constructing customized instruments that

interact in real time with human subjects and biological preparations, and electrophysiological and optical techniques for recording detailed information from single neurons and large neuronal networks.

“Being asked to lead the Brain Institute is a great honor,” White said. “Tom Parks did a superb job assembling the staff, defining the major themes, and mobilizing the scientific teams. Working with the staff and faculty, I hope to build upon Tom’s efforts, particularly in catalyzing new collaborative efforts on big problems in neuroscience and neural engineering,” he said. “I’m very excited about the unique opportunities we have to translate basic discoveries into much-needed advances in care for neurological patients.”

As a USTAR professor, White has a major goal of moving his ideas and devices from the laboratory to the marketplace. USTAR was established by the Legislature in 2006 to encourage academic researchers such as White to commercialize technology and ideas for the creation of Utah companies and jobs for economic development. The University has its own USTAR center with world-class researchers in areas ranging from the neurosciences and imaging technology to biomedical engineering and nano-technology.

Before coming to Utah, White spent 13 years on the biomedical engineering faculty at Boston University, where he was professor and interim chair. He has published more than 50 peer-reviewed articles and has been the principal or co-principal investigator on grants totaling more than $40 million.

White is a member of the College of Fellows for the American Institute for Medical and Biomedical Engineering and is a fellow of the Biomedical Engineering Society.

White’s USTAR research area is in Biomedical Device Innovation. His team’s research focuses on the mechanistic bases of spatially and temporally coherent electrical activity in the brain. In other words, how the "wires" in our brains connect to make memories or "short circuit" to cause seizures. His research focuses on developing implants and high-speed electrical systems that can determine when a person is going to have a seizure. Utilizing advanced computer technology, the device would then send an electrical stimulation to the part of the brain required to prevent the seizure.

White’s approach blends technology development, electrophysiology, computational modeling, and imaging. The goal is to develop new treatments for memory disorders and epilepsy, based on novel applications of electronic technology and methods of analysis from applied mathematics and engineering.

ABOUT USTAR

The Utah Science Technology and Research initiative (USTAR) is a long-term, state-funded investment to strengthen Utah's "knowledge economy” and generate high-paying jobs. Funded in March 2006 by the State Legislature, USTAR is based on three program areas. The first area involves funding for strategic investments at the University of Utah and Utah State University to recruit world-class researchers. The second area is to build state-of-the-art interdisciplinary facilities at these institutions for the innovation teams. The third program area involves teams that work with companies and entrepreneurs across the State to promote science, innovation, and commercialization activities. For more information, go to www.innovationutah.com.

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